

# ESTIMATING CLIMATE CHANGE PROPERTY TAX IMPACTS AROUND WINNAPAUG POND

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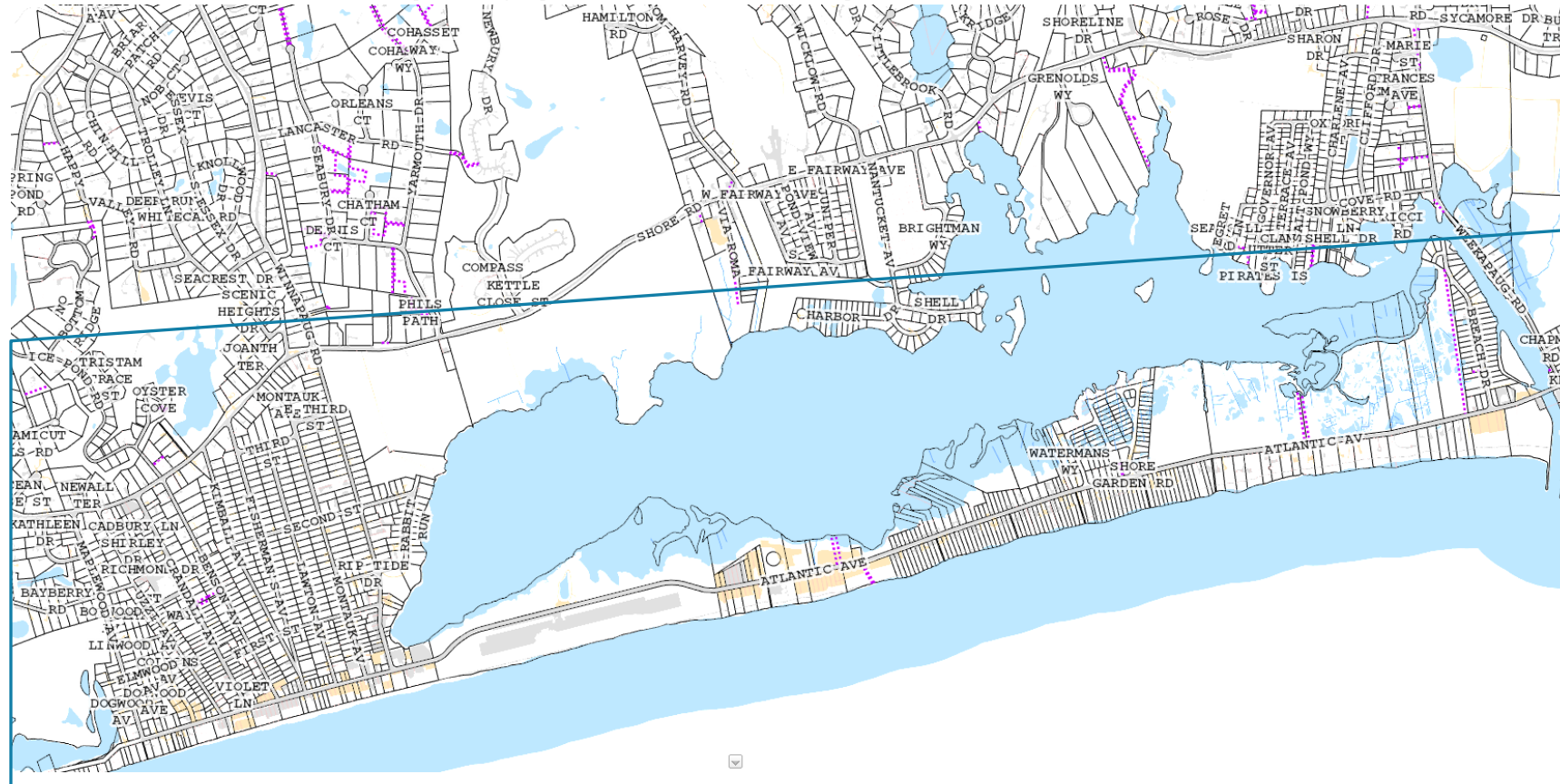
Sara Pinney, Claire Graves, Sid Pant      Northeastern University  
Spring 2021

Advisory class project – Professor O’Haver

# STUDY OBJECTIVE

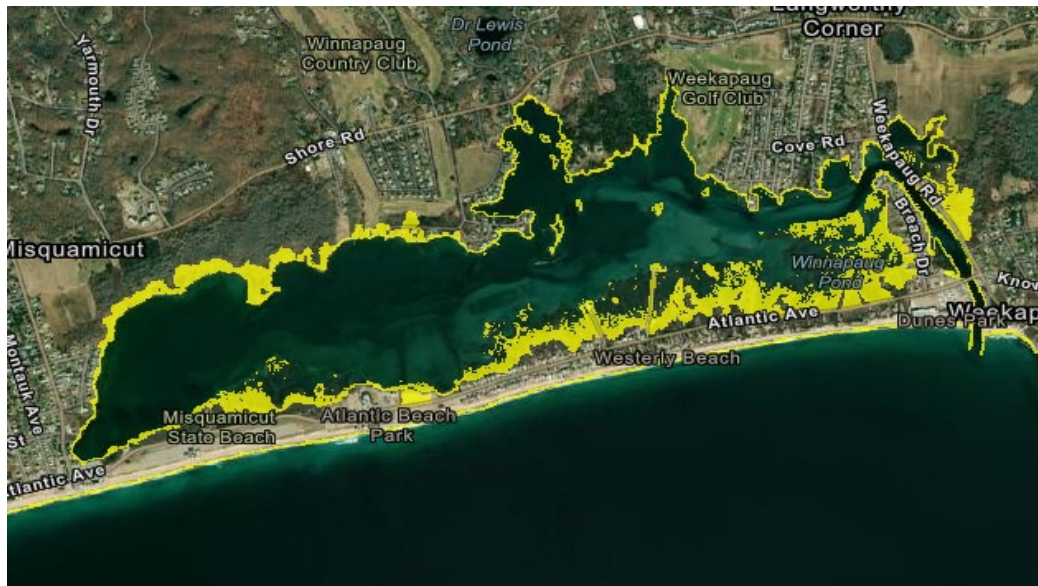
“Client” - Westerly Economic Development Commission and Town Planning Department

Scope limitations: Winnapaug pond area only, over the next 20 years

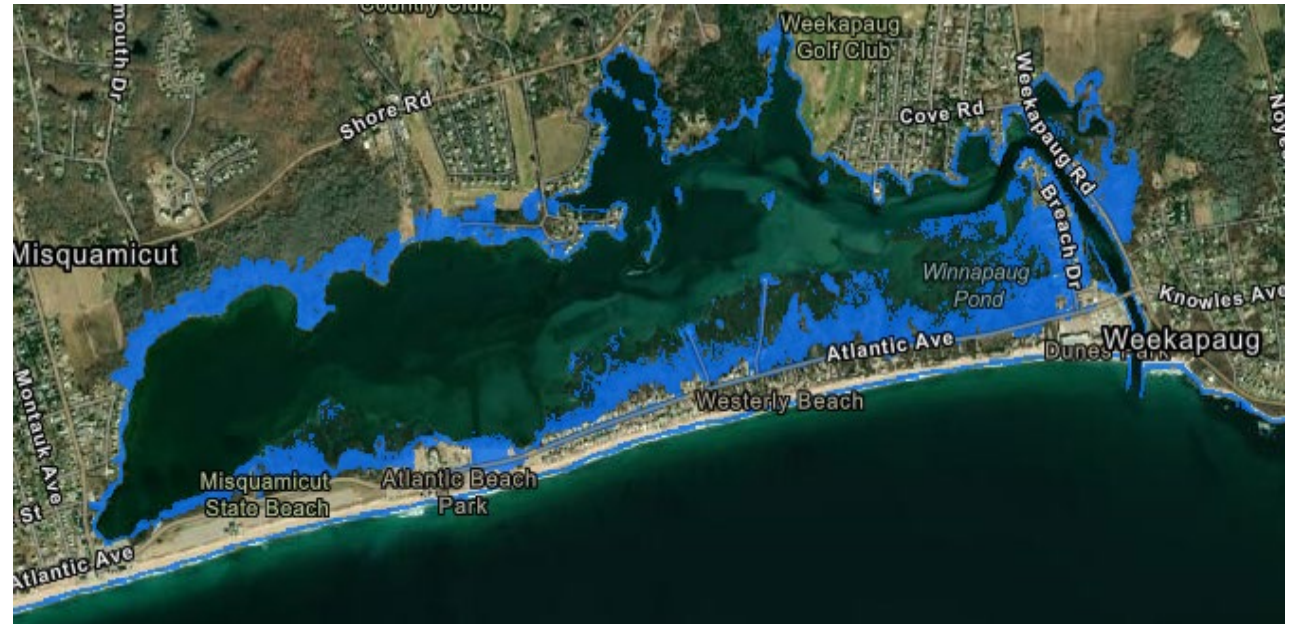


# APPLY CRMC SEA LEVEL RISE IMPACT MAPS FOR WINNAPAUG POND WATERSHED

Projected impact **1-foot SLR** – CRMC 2031 – no significant neighborhood impacts



Projected impact **2-foot SLR** – CRMC 2041- Breach Dr area is largely flooded (note with King Tides, this result will happen sooner than 2040)



# PROTOTYPE ANALYSIS: ZERO IN ON BREACH DR & WEEKAPAUG RD AS THE MOST SLR IMPACTED NEIGHBORHOOD

Full Assessor Map

FEMA Panel

Assessor maps are large (2-3 MB) and may take more time to load, even on a DSL connection.

[For More Info](#)

**Account**  
19245530  
**Owner**  
SOMBERG AMY A  
REVOCABLE TRUST  
**Location**  
11 RABBIT RUN  
**MAILING ADDRESS**  
% SOMBERG MATTHEW A &  
AMY A TR  
S GLASTONBURY CT 06073

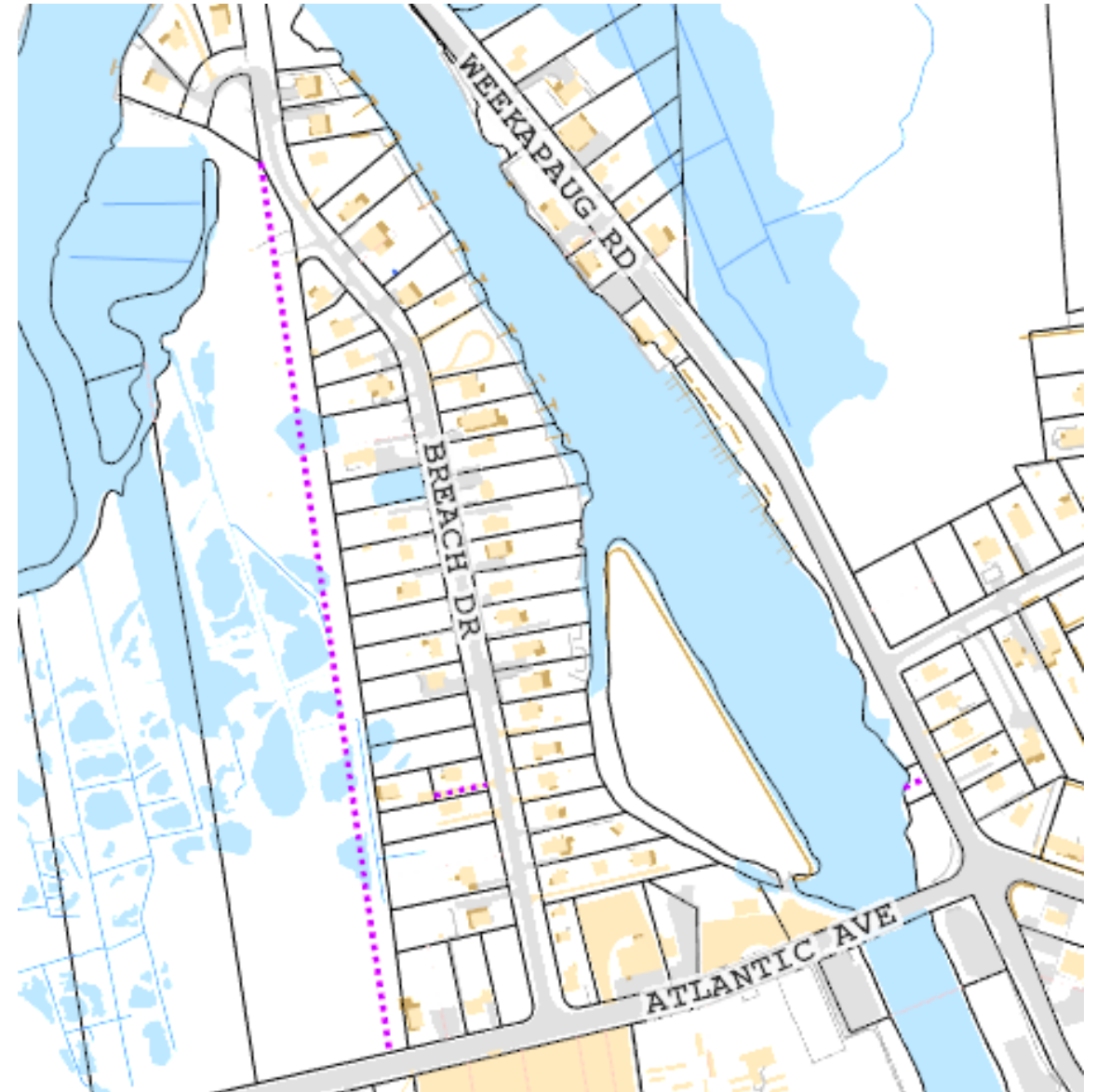


## ☞ SUMMARY PARCEL INFORMATION & MAP DOCUMENTS PARCEL VALUATIONS

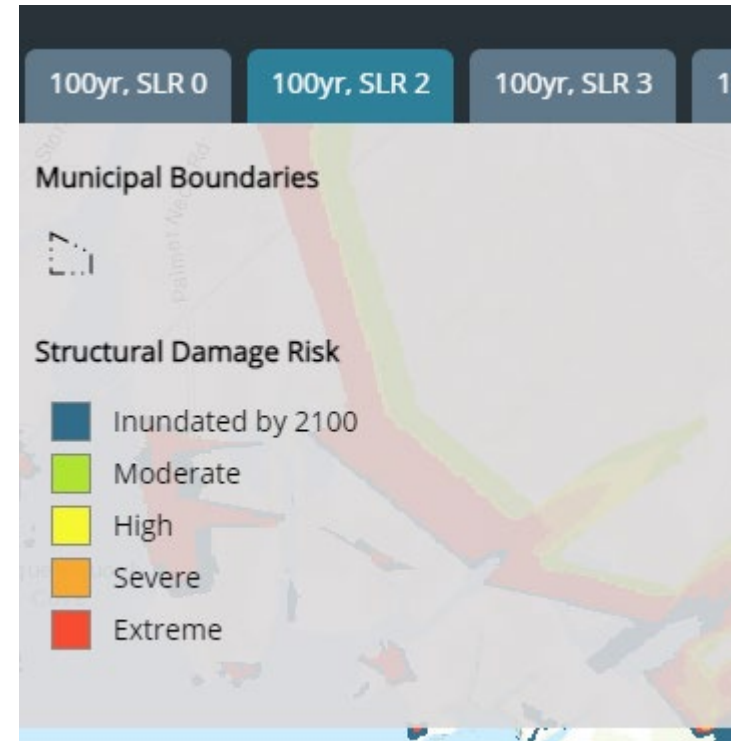
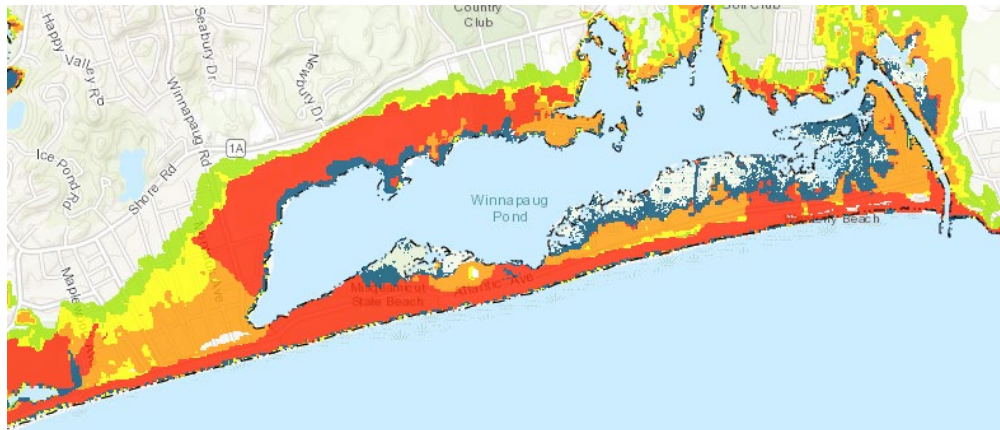
	Appraised Value	Assessed Value
Buildings	410400	410400
Outbuildings	0	0
Extra Features	22800	22800
Land	624000	624000
<b>TOTAL:</b>	<b>1057200</b>	<b>1057200</b>

## PROPERTY INFORMATION

Land Acres	0.24
Land Use	SEASNL&BCH MDL-01



**CRMC IMPACT AREAS WITH 2-FT SLR — INTERACTION EFFECTS ARE NOT A SIGNIFICANT AT THIS LEVEL (I.E., THE DIFFERENCE BETWEEN 100YR SLR 0 AND SLR 2 IS NOT SIGNIFICANT). “SEVERE” AND “EXTREME” DAMAGE LEVELS REPRESENT MORE THAN 50 PERCENT STRUCTURAL DAMAGE.**

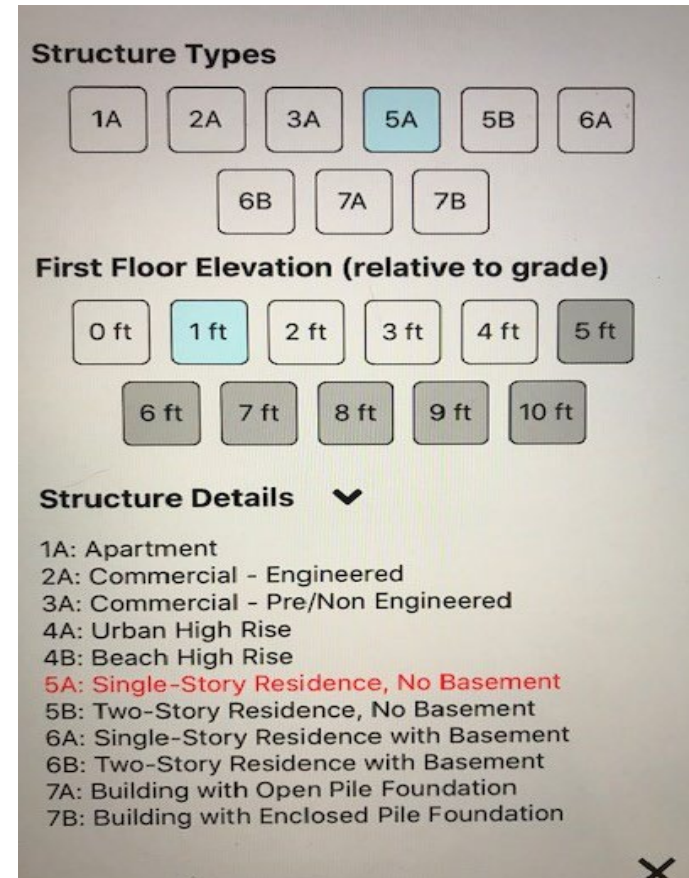
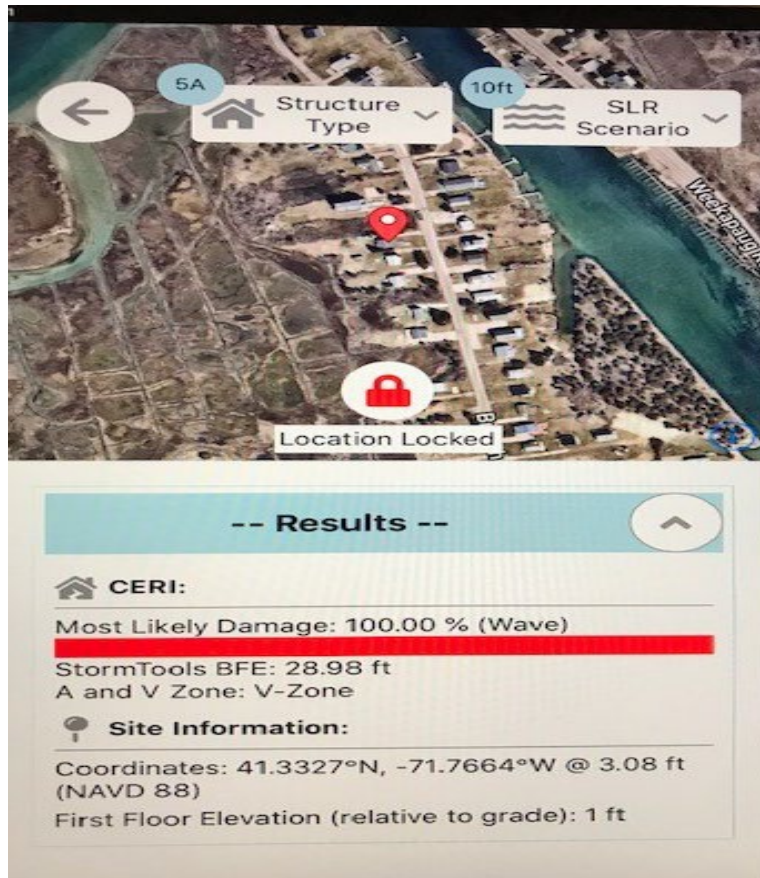


# BREACH DR RESULTS: TYPES OF STORM IMPACTED LOTS/STRUCTURES VIA OUR ARCGIS MAPPING AND LINKING WITH LOT-BY-LOT TAX CARD DATA

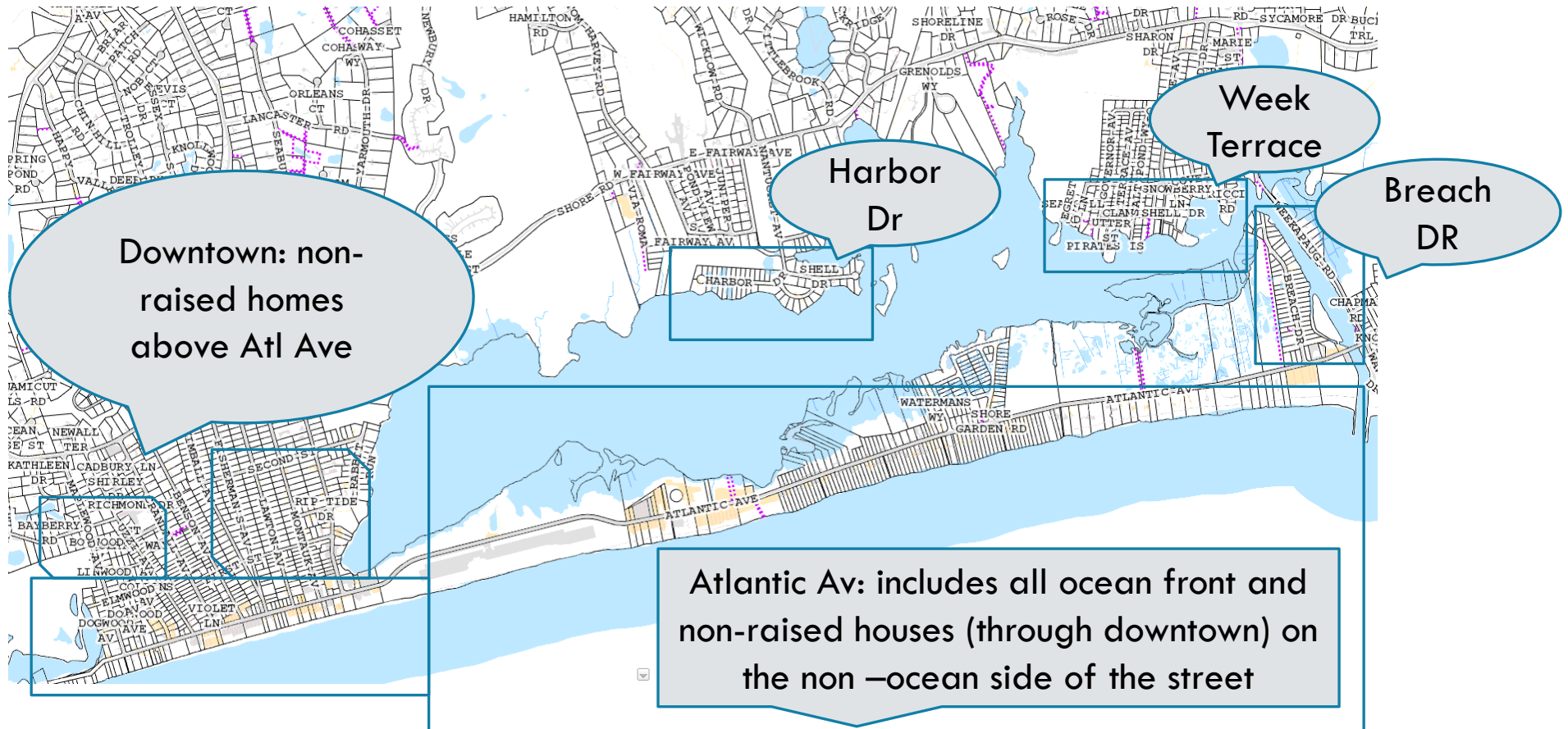
- Not Raised
- Raised



# STORMTOOLS (CRMC) APP – TOGGLES ON THE RIGHT ALLOW SIMULATED DAMAGE ESTIMATES BY LOT DUE TO FLOODING (WIND NOT FACTORED IN)



# WINNAPAUG WATERSHED: STUDY AREA WITH STREET/LOT MAP OVERLAY (GIS TOWN DATABASE)



# SUMMARY — EST PV \$ LOST REVENUE TO THE TOWN OVER A 20 YR PROJECTION PERIOD

Tax Revenue impact is based on projected impact, time projections, probability estimates on property tax revenue streams over twenty years.

Sea Level Rise	Storms
Two feet estimated	100-year coastal storm event (w/ 0 & 2 feet SLR)
Breach Drive under water	Atlantic Ave & Misquamicut most at risk Raised homes, on average, have 30% less damage
\$2.8MM PV revenue loss	\$111K PV revenue loss

#### NOTES:

- Much more severe SLR after 20 years; Storm impact minimal due to rapid rebuild
- Property values in Weekapaug and Watch Hill, could generate different results

#### NEXT STEPS

- Expand methodology to Watch Hill & Downtown and include inland flooding
- Add infrastructure impact to analysis (water, sewer, roads, etc.)
- Apply neighborhood approach to analysis and potential mitigation